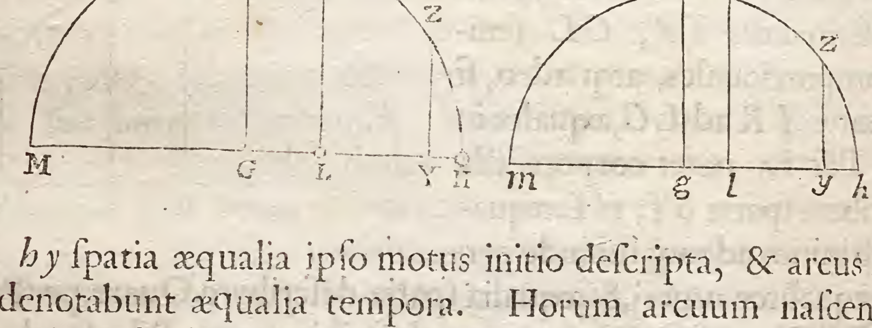
temporibus & velocitates & arcus deſcripti in Oſcillationibus univerſis. Quæ erant primo invenienda.

Oſcillentur jam funipendula duo corpora in Cycloidibus inæqualibus & earum ſemiarcubus æquales capiantur rectæ $GH$, $gh$, centriſq; $G$, $g$ & intervallis $GH$, $gh$ deſcribantur ſemicirculi $HZKM$, $hzkm$. In eorum diametris $HM$, $hm$ capiantur lineolæ æquales $HY$, $hy$, & erigantur normaliter $YZ$, $yz$ circumferentiis occurrentes in $Z$ & $z$. Quoniam corpora pendula ſub initio motus verſantur in circumferentia globi $QOS$, adeoq; a viribus æqualibus urgentur in centrum, incipiuntq; directe verſus centrum moveri, ſpatia ſimul confecta æqualia erunt ſub initio. Urgeantur igitur corpora $H$, $h$ a viribus iiſdem in $H$ & $h$, ſintq;




$HY$, $hy$ ſpatia æqualia ipſo motus initio deſcripta, & arcus $HZ$, $hz$ denotabunt æqualia tempora. Horum arcuum naſcentium ratio prima duplicata eſt eadem quæ rectangulorum $GHY$, $ghy$, id eſt, eadem quæ linearum $GH$, $gh$; adeoq; arcus capti in dimidiata ratione ſemidiametrorum denotant æqualia tempora. Eſt ergo tempus totum in circulo $HKM$, Oſcillationi in una Cycloide reſpondens, ad tempus totum in circulo $hkm$ Oſcillationi in altera Cycloide reſpondens, ut ſemiperiferia $HKM$ ad medium proportionale inter hanc ſemiperiferiam & ſemiperiferiam circuli alterius $hkm$, id eſt in dimidiata ratione diametri $HM$ ad diametrum $hm$, hoc eſt in dimidiata ratione perimetri Cycloidis primæ ad perimetrum Cycloidis alterius, adeoq; tempus illud in Cy-

clo-

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midiametrum globi. Q. E
Prop. L. ) in dimidiata r
Porro ſi in globis conc
quoniam earum perimetri
in analogis perimetrorum
muni globorum centro, h
adeo ut Cycloidum perim
qualia erunt tempora quib
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( ob datam $AC$ )in dimid
tione integra numeri $\sqrt{\frac{AR}{AC}}$
ne $AR$ ad $AC$ ( ut ſit in C
neat, & propterea in globis
ut tempus: manifeſtum eſ
quovis globo dato, atq; ac
ut numerus $\sqrt{\frac{AR}{AC}}$, id eſt,
tione longitudinis fili $AR$
tri globi $AC$ inverſe. Q.
Deniq; ſi vires abſolutæ
quales, accelerationes temp
Unde ſi tempora capiantu
velocitates erunt in eadem
ſpatia erunt æqualia quæ h
cillationes in globis & Cy
viribus abſolutis factæ, ſu